

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087075 A3

(51) International Patent Classification⁷: **A61K 31/415**,
31/44, C07D 233/02, 401/00

(21) International Application Number:
PCT/US2004/009667

(22) International Filing Date: 29 March 2004 (29.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/458,845 28 March 2003 (28.03.2003) US
60/465,281 21 April 2003 (21.04.2003) US

(71) Applicant (for all designated States except US):
THRESHOLD PHARMACEUTICALS, INC. [US/US];
951 Gateway Boulevard, Suite 3A, South San Francisco,
CA 94080 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MATTEUCCI**,
Mark [US/US]; 135 Fawn Lane, Portola Valley, CA 94028
(US). **RAO**, Photon [IN/US]; 1044 Helm Lane, Foster
City, CA 94404 (US). **DUAN**, Jian-Xin [CN/US]; 1233
Marcie Circle, South San Francisco, CA 94080 (US).

(74) Agent: **APPLE, Randolph, T.**; Townsend and Townsend
and Crew LLP, Two Embarcadero Center, 8th Floor, San
Francisco, CA 94111-3834 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
24 March 2005

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: COMPOSITIONS AND METHODS FOR TREATING CANCER

(57) Abstract: Hypoxia-activated prodrugs can be used to treat cancer when administered alone or in combination with one or more anti-neoplastic agents.

WO 2004/087075 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/09667

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 31/415, 31/44; CO7D 233/02, 401/00
US CL : 514/385, 514/279; 548/311.1; 546/268.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 514/385, 514/279; 548/311.1; 546/268.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,921,963 (SKOV et al) 01 May 1990 (01.05.1990), columns 1-16.	1-87

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

03 November 2004 (03.11.2004)

Date of mailing of the international search report

27 DEC 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 872-9306

Authorized officer

Robert Shiao

Telephone No. (571)272-1600

11/3/04 *R. Desai*
11/3/04